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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/791,823	03/04/2004	Rintaro Minamitani	520.43596X00	3645

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EXAMINER	
DUONG, THO V	
ART UNIT	**PAPER NUMBER**
3743	

DATE MAILED: 08/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/791,823	MINAMITANI ET AL.	
	Examiner	Art Unit	
	Tho v. Duong	3743	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 July 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Applicant's election with traverse of species D of figures 8-9 in the reply filed on 7/18/2005 is acknowledged. The traversal is on the ground(s) that claim 1 is generic and allowable. This is not found persuasive because the basis for restriction is that the species are patentable distinct. Furthermore, claim 1 is further rejected as follows:

The requirement is still deemed proper and is therefore made FINAL.

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The abstract of the disclosure is objected to because the abstract exceed 150 words.

Correction is required. See MPEP § 608.01(b).

Claim Objections

Claims 1 and 3 are objected to because of the following informalities: regarding claim 1 "an electronic parts" appears to be a typographical error of "an electronic part". Regarding claim 3, "said ion exchange bag are" appears to be a typographical error of "said ion exchange bag is" Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 2 and 4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 2 and 4 recites the limitation "said ion exchange holder" in line 4 and line 3 respectively. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Saitoh et al. (US 5,572,538). Saitoh discloses (figures 1-4 and column 7, lines 33-43) a liquid cooling system comprising a pump (78) for supplying a cooling liquid; a heat receiving jacket (14) being supplied with the cooling liquid for receiving heat from electronic parts; a radiator (76) being

supplied with the cooling liquid passing through the heat receiving jacket; flow passages for circulating the cooling liquid in a route passing through the radiator back to the pump, wherein an ion exchange bag (72c), having a permeable bag (72c) enclosing an ion exchange resin therein, the bag is exchangeable held within a holder (72), which is in turn held within a container (38); the ion exchange bag (72c) is disposed downstream of the radiator (76) and also in part building up the liquid cooling system in an upstream of the heat receiving jacket (14).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Messina (US 5,309,319) in view of Saitoh et al. (US 5,572,538). Messina discloses (figures 1-5 and column 5, lines 1-6) an electronic apparatus comprising a heat generation element (512) mounted on a substrate; a heat receiving jacket (130,510) being thermally connected to the heat generation element (512); a heat radiation jacket (chiller or condenser); a pump (50) for circulating the liquid to those jackets; a piping (30,60) for connecting the pump and the jackets, wherein an ion exchanger and filter is well known to be incorporated into the cooling system. Messina does not disclose an ion exchange bag held within a container located upstream of heat receiving jacket and downstream of the radiator. Saitoh discloses (figures 1-4 and column 7, lines 33-43) a liquid cooling system having an ion exchange bag (72c), having a permeable bag (72c) enclosing an ion exchange resin therein, the bag is exchangeable held within a holder (72), which is in turn held

within a tank (38) and the ion exchange bag (72c) is disposed downstream of a radiator (76) and also in part building up the liquid cooling system in an upstream of the heat receiving jacket (14). Saitoh further discloses (column 7, lines 33-43) that such arrangement of the ion exchange bag in the cooling system is for the purpose of improving the efficiency of deionizing the liquid coolant. Since Messina and Saitoh are both from the same field of endeavor and/or analogous art, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use Saitoh's teaching in Messina's cooling system for the purpose of improving the efficiency of deionizing the liquid coolant.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kawashima et al. (US 4,865,123) discloses an apparatus for supplying cooling fluid having an ion exchanger and filter installed within the system.

Mikule et al. (US 3,965,000) discloses a method for operating ion exchange columns.

H. L. Wiegand (US 2,917,685) discloses a recirculating water system for cooling electrical components.

Ishikawa et al. (US 6,510,052) discloses a cooling unit for cooling a heat generating component.

Ashiwake et al. (US 5,406,807) discloses an apparatus for cooling semiconductor device.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tho v. Duong whose telephone number is 571-272-4793. The examiner can normally be reached on M-F (first Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Henry Bennet can be reached on 571-272-4791. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tho v Duong
Primary Examiner
Art Unit 3743

TD

TD
July 25, 2005